

REMARKS

Claims 1, 3-5, 30 and 32-36 are pending in the application. Claims 1, 3-5, 30 and 32-36 are rejected. No claims are allowed.

Claim 1 has been amended to more clearly describe and distinctly claim the subject matter the Applicants consider their invention. Specifically, claim has been amended to indicate that the signal generating means are attached to the corresponding substance and that the protective coating covers complement fixed on the substrate and any corresponding substance bound thereto. Support for the amendment can be found at page 9, line 15 to page 10, line 3, and in Examples 1-3, of the specification as originally filed. Accordingly, no new matter has been introduced by these amendments.

Claims 1, 3-5, 30 and 32-36 are presented for further proceedings. Reconsideration of the claim rejections and allowance of the pending claims in view of the amendments above and the following remarks are respectfully requested.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 3-5, 30 and 32-36 stand finally rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Nova et al., US 5,741,462 ("Nova"). According to the Examiner in the final Office Action:

Claims 1, 3-5, 30 and 32-36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nova et al. (USP 5,741,462). Nova et al. teach a solid support used for combinatorial chemistry where the analyte of interest is bound and identified using convention tags or labels (see column 1 lines 30+ and column 8 lines 31-52). This has been read on the claimed "substrate ... for supporting at least one complement ... signal generating means for detecting a detectable signal at locations ... ". Column 4 lines 52-61 teach the solid support can be made of glasses which is identical to the presently claimed supporting material. Column 5 lines 14-22 teach coating the support

with a protective polymer. Column 17 lines 11- 23 teach the claimed methyl acrylate copolymer.

Applicants maintain that Nova does not anticipate the claimed subject matter. It has long been the law that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 631, 638 (Fed. Cir. 1987). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations omitted). In addition, for an anticipation rejection to be proper, the reference must clearly and unequivocally disclose the claimed subject matter or direct those skilled in the art to the claimed subject matter without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference. *See In re Arkley*, 455 F.2d 586, 587 (CCPA 1972); *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008) ("But disclosure of each element is not quite enough – this court has long held that '[a]nticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.'") (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (emphasis in original)).

Claim 1, the only remaining independent claim, has been amended to indicate that the signal generating means are attached to the corresponding substance and that the protective coating covers complement fixed on the substrate and any corresponding

substance bound thereto. In this way, the signal generating means is protected from attack by substances typically found in air, such as ozone. As shown in Figures 1 and 2, microarrays treated with an acrylic protective coating yielded fluorescent patterns substantially identical to untreated microarrays, but in contrast, prevented signal degradation during and following exposure to ozone and direct sunlight.

Nova, in contrast, discloses a combination of (a) a miniature recording device that contains one or more programmable storage devices (memories) that can be remotely programmed, and (b) a matrix. The recording device is in proximity with or in contact with the matrix and is programmed with or encoded with information that identifies molecules or biological particles, either by their process of preparation, their identity, their batch number, category, physical or chemical properties, combinations of any of such information, or other such identifying information. The molecules or biological particles are in physical contact, direct or indirect, or in proximity with the matrix, which in turn is in physical contact or in the proximity of the recording device that contains the data storage memory. Typically, the matrix is on the surface of the recording device and the molecules and biological particles are in physical contact with the matrix material. *See col. 4, line 46 to col. 5, line 34.* The identified molecule or biological particle can be used in a reaction or assay of interest and tracked by virtue of its linkage to the matrix with memory or its proximity to the matrix with memory, which can be queried to identify the molecule or biological particle. *See col. 7, lines 6-10.*

Thus, although Nova arguably discloses what can be considered signal generating means (i.e., the miniature recording device), the signal generating means are not attached to a corresponding substance capable of binding to its complement fixed on a substrate,

as now required by the subject claims. Rather, the miniature recording device is attached to the substrate itself – any molecules or particles of interest bound to the matrix do not contact the device.

Furthermore, Nova does not teach a protective coating covering complement fixed on a substrate and any corresponding substance bound thereto, as now required by the subject claims. Although, as the Examiner notes, Nova discloses that recording device is typically coated with at least one layer of material, such as a protective polymer or a glass, such a coating would not cover the matrix, on which any molecules or particles of interest might be contacted. As such, the coating would be incapable of protecting signal generating means attached a corresponding substance while bound to its fixed complement (which as discussed above is also not taught by Nova). In addition, although Nova discloses methyl acrylate copolymers, the Examiner is incorrect that this disclosure reads on the claimed coatings. Nova clearly teaches that methyl acrylate copolymers may be used as the matrix (*see col. 17, lines 12-21*), not as a protective coating covering complement fixed on the matrix and any corresponding substance bound thereto.

In view of the many differences between Nova and the claimed subject matter, Applicants submit claims 1, 3-5, 30 and 32-36 are not anticipated by Nova, and reconsideration of this basis for rejection is respectfully requested.

CONCLUSION

It is believed that claims 1, 3-5, 30 and 32-36 are now in condition for allowance, early notice of which would be appreciated. If any additional fees are due, the Commissioner is authorized to charge any such fee to our Deposit Account No. 50-3329. Please contact the undersigned if any further issues remain to be addressed in connection with this submission. Please note new counsel's correspondence address and docket number set forth herein.

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Respectfully submitted,

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